

Ascot High School
Industrial Technology Department
Motor Vehicle Repairs Course Outline: Grade 11

NCTVET PREPARATION			
Duration	Topics	Sub-Topics	Specific objectives
September 9- October 29, 2025	Engine	Engine Top End	Demonstrate knowledge of camshaft. Demonstrate knowledge of valve train mechanism. Demonstrate knowledge of valves operation and construction Demonstrate knowledge of pushrods and rocker arms. Demonstrate knowledge of the operation of the valve train parts. Remove and replace valve train parts. Demonstrate knowledge of the cylinder head and its parts. Diagnose valve train faults and give solutions for these.
November 4-27, 2025	Engine Classification	Cylinder Arrangement	Demonstrate knowledge of the number of cylinders of four stroke engines Demonstrate knowledge of the cylinder types: inline, V, slant, opposed
November 30- December 5, 2025	Engine	Engine Top End	Disassemble the engine top end.
January 6-13, 2025	Engine	Engine Bottom End	Students should be able identify and explain the purpose of the piston, rings, connecting rod,

			crankshaft.
January 15-29, 2025	Engine	Engine Bottom End	Disassemble the engine bottom end.
February 3-March 26, 2025	Performing Cooling and Lubrication Services	Cooling System	<p>Explain the purpose of the cooling system</p> <p>Differentiate between liquid and air-cooled engines</p> <p>Identify and explain the function of the components of the cooling system</p> <p>Explain and demonstrate the procedure to perform a system flush</p> <p>Inspect, remove and replace cooling systems cooling system parts</p> <p>Diagnose and troubleshoot cooling system faults and solutions</p>
April 2-28, 2025			
		Lubrication System	<p>Explain the purpose of the lubrication system</p> <p>Identify and explain the function of the parts of the lubrication system</p> <p>Explain methods of lubrication</p> <p>Discuss lubrication service and maintenance operation procedures</p> <p>Diagnose and troubleshoot lubrication system faults and solutions</p>
May 5-June 4,	Braking System	Braking Operation	Explain how the brakes work.

2025			<p>Explain the functions of the braking system. List the types of brakes.</p>
		Disc Brakes	<p>Explain the purpose of the braking system Explain how the brakes work. Differentiate between pneumatic brakes and hydraulic brakes. Differentiate between disc brakes and drum brakes. Identify the parts of the disc brakes and drum brakes. Explain how disc brakes work. Explain the function of each of the parts of the disc brake system. Identify faults associated with disc brake parts. Explain the cause of the problems associated with disc brakes Give solutions for these problems. Diagnose problems associated with the disc brakes.</p>
	Suspension	Shocks, Ball Joints, Links and Bushings	<p>Explain the various functions of the suspension system. List the parts of the suspension system and explain the functions of these parts. Diagnosis suspension system faults and recommend solutions</p>